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Heart Failure and Cardiomyopathies

LONG-TERM OUTCOME WITH CARDIAC-RESYNCHRONIZATION THERAPY IN UNITED STATES AND EUROPEAN PATIENTS: MADIT-CRT

Poster Contributions
Poster Hall B1
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Background: Early intervention with cardiac resynchronization therapy with defibrillator (CRT-D) in mild heart failure (HF) patients with a left bundle branch block (LBBB) ECG pattern was associated with a significant reduction in death and HF in the long-term MADIT-CRT trial. Whether patients in MADIT-CRT enrolled from centers in the United States (U.S.) and in Europe have different long-term clinical response to CRT-D remains unknown.

Methods: We compared the baseline clinical characteristics and clinical and echocardiographic long-term clinical response to CRT-D between MADIT-CRT patients with LBBB who were enrolled in U.S. (n=871) and European centers (n=392).

Results: Although European patients had more advanced heart disease than U.S. patients, CRT-D was associated with similar 60% ($p<0.001$) reductions in the risk of heart failure in U.S and European patients when compared to ICD-only therapy after adjustment for relevant baseline clinical covariates. U.S patients had significant long-term mortality reduction (38%, $p=0.02$) while among European patients the survival benefit associated with CRT-D was not statistically significant (HR=0.73p=0.18); Subgroup analyses revealed a significantly greater CRT-D benefit among women who were enrolled in the U.S, whereas no gender difference in the clinical benefit of CRT-D was observed in the European cohort. Percent reduction in left ventricular end systolic volume at 1-year was 36% and 33% among US and European patients, respectively.

Conclusion: Despite differences in baseline disease severity, European and U.S. patients with LBBB experienced a similar clinical and echocardiographic response to cardiac resynchronization therapy during long-term follow-up.